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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,487	10/27/2003	Steven D. Kaplan	0290527.00121US1	4276

23483 7590 02/10/2006

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EXAMINER

MAKI, STEVEN D

ART UNIT PAPER NUMBER

1733

DATE MAILED: 02/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/694,487

Applicant(s)

KAPLAN, STEVEN D.

Examiner

Steven D. Maki

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-12 and 57-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-12 and 57-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>111405</u> . | 6) <input type="checkbox"/> Other: _____ |

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- 1) The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

- 2) Claims 1 and 3-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claims 1 and 3, the subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (i.e. the new matter) is the subject matter of the low friction material defining a "generally side-facing surface" of the shoulder. Original figure 1 shows the portion of low friction material as being located at a side surface of the tire. However, it is not seen how "generally side-facing surface" (emphasis added), which has no literal support in the original disclosure, is supported by original figure 1.

- 3) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 4) Claim 60 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 60, there is no antecedent basis for "the tires" or "said shoulder".

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Also, "in at least one of the ribs of the second said shoulder that define portions of the side surface formed by the ribs of the second said shoulder" is confusing.

5) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Japan 177 (tire blocks 51a)

7) **Claims 1, 3, 6, 8 and 57 are rejected under 35 U.S.C. 102(b) as being anticipated by Japan 177 (JP 3-246177).**

Japan 177 discloses a pneumatic tire having a tire tread section 51, tire taper face 53, tire sidewall section 52 and bead portions. The bead portions are mounted on the rim as shown in figure 6. The tire taper face 53 extends between the outer surface of the tire tread section 51 and the tire sidewall section 52 and thereby includes the "shoulder" of the tread. See figure 6. Japan 177 provides each side of the tire with friction reducing material. Japan 177 teaches providing the tire tread section 51 with "tire blocks 51a". See figures 15 and 16 and translation of Japan 17 provided by applicant.

In figure 11, the friction reducing members 56, 56 are Teflon (PTFE) sheets

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("coatings").

In figure 12, Teflon particles are mixed in rubber.

In figure 13, the friction reducing members are rod shaped resin spikes ("molded material inserted to the tire").

In figure 14, the friction reducing members are rivet shaped resin spikes.

In figures 15-16, the tire tread section 51 has tire blocks 51a. The taper surfaces 53 and the tread section 51 are covered by a resin net 61 as a friction reducing member.

As to claim 1, the claimed tire is anticipated by Japan 177's tire. The claimed low friction material reads on Japan 177's friction reducing material (resin net 61 in figure 15). The tire in figure 15 comprises friction reducing material at the "shoulders" (at a location between the outer surface of the blocks 51a and the tire sidewall section 52). The claimed "plurality of ribs and grooves" reads on the tire blocks 51a ("ribs"), which are separated from each other by "grooves". See figures 15 and 16. With respect to claim interpretation, "rib" is broadly interpreted as reading a block since the original disclosure describes blocks 40 in figure 3 as "ribs". The description of "road engaging" relates to intended use and fails to require tire structure not disclosed by Japan 177 because Japan 177's rubber pneumatic tires are capable of being mounted on a rim. The description of the surface of the low friction material being "...arranged to engage a road surface in response to side forces exerted on the tire and to reduce frictional forces between the tire and the road when the low friction material contacts the road" relates to intended use and fails to require tire structure not disclosed by Japan 177 since (1)

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Japan 177, like applicant, locates friction reducing material at the shoulder of a pneumatic tire, (2) Japan 177's tire is capable of being mounted on a rim and (3) claim 1 fails to require mounting the tire on a vehicle such that the tire directly contacts the road instead of an endless track.

As to claim 3, Japan 177 provides low friction material on both sides of the tire.

As to claim 8, Japan 177 teaches Teflon (a fluoropolymer).

As to claim 57, the friction reducing net covers about half of the side of the tire and thereby covers both the shoulder and a portion of the sidewall.

8) Claims 7-8 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 177 in view of Muramatsu et al (US 5540489) and/or Bartkowiak (US 5069331).

It would have been obvious to use the claimed material for Japan 177's friction reducing resin net since (1) conventional low friction resin material includes nylon and ultrahigh molecular weight polyethylene as evidenced by Muramatsu (US 5540489) and/or (2) conventional low friction resin material includes Teflon fibers, nylon and Kevlar (aromatic polyamide) as evidenced by Bartkowiak (col. 4 lines 30-40).

Japan 177 (ribs and grooves)

9) Claims 1, 3-6, 8 and 57-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 177 in view of Bonko (US 6386652) or Tucker (US 3276823).

Japan 177 is considered to anticipate claim 1. In any event and as to claims 1 and 58, it would have been obvious to provide Japan 177's pneumatic tires 14, 16 for

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the endless rubber track with "a plurality of ribs and grooves" in view of (1) Bonko's suggestion to provide the tread of a pneumatic tire for an endless rubber track with "ribs and grooves" (lugs and channels) such that the tire has high contact area and sufficient grooving so that the tire does not slip when the internal surface of the track and the tread of the tire become lubricated with mud or sloppy soil (col. 5 lines 8-14) or (2) Tucker's suggestion to provide pneumatic tires 9 for an endless rubber track with "ribs and grooves" (transverse ribs 15 separated by "grooves") so that the outer surface of the tire can engage the inner surface of the track in a gear like non-slipping relation.

Furthermore, it would have been obvious to provide the tire such that the shoulder of the tire has low friction material as set forth in claim 1 or the ribs have low friction material as set forth in claim 58 in view of Japan 177's teaching to provide low friction material at the sides of the tire as shown for example in figures 11-15. The description of the surface of the low friction material being "...arranged to engage a road surface in response to side forces exerted on the tire and to reduce frictional forces between the tire and the road when the low friction material contacts the road" relates to intended use and fails to require tire structure not disclosed by Japan 177 since (1) Japan 177, like applicant, locates friction reducing material at the shoulder of a pneumatic tire, (2) Japan 177's tire is capable of being mounted on a rim and (3) claim 1 fails to require mounting the tire on a vehicle such that the tire directly contacts the road instead of an endless track.

As to claim 3, Japan 177 suggests providing both shoulders with low friction material.

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As to claims 4-6, it would have been obvious to mold the low friction material into the shoulder of tire, incorporate low friction material in the rubber compound radially inward of the tread surface or apply low friction material as a coating to the shoulder in view of Japan 177's teachings as to the various techniques that may be used to provide low friction material at the sides of the pneumatic tire.

As to claim 8, Japan 177 teaches using Teflon (fluoropolymer) as the low friction material.

As to claim 57, the friction reducing material can cover about half of the side of the tire and thereby covers both the shoulder and a portion of the sidewall.

As to claim 59, Bonko or Tucker suggest circumferentially spaced ribs.

As to claim 60, Japan 177 suggests providing both shoulders with low friction material.

As to claims 61-63, it would have been obvious to mold the low friction material into the shoulder of tire, incorporate low friction material in the rubber compound radially inward of the tread surface or apply low friction material as a coating to the shoulder in view of Japan 177's teachings as to the various techniques that may be used to provide low friction material at the sides of the pneumatic tire.

10) Claims 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 177 in view of Bonko or Tucker as applied above and further in view of Japan 413 (JP 63-218413).

It would have been obvious to use the claimed material for Japan 177's friction reducing members since conventional low friction material includes ultrahigh molecular

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weight polyethylene incorporated in rubber as evidenced by Japan 413.

11) Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 177 in view of Bonko or Tucker as applied above and further in view of Costa Pereira et al (US 6116313).

It would have been obvious to use the claimed material for Japan 177's friction reducing members since conventional low friction material includes rubber based on dimethyl siloxane (silicone material) / fatty acid amide in rubber blend (low friction material incorporated in rubber) as evidenced by Costa Pereira et al (col. 2 lines 53-64)

12) Claims 7 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 177 in view of Bonko or Tucker as applied above and further in view of Muramatsu et al (US 5540489) and/or Bartkowiak (US 5069331).

It would have been obvious to use the claimed material for Japan 177's friction reducing members since (1) conventional low friction material includes nylon, ultrahigh molecular weight polyethylene and ceramic as evidenced by Muramatsu (US 5540489) and/or (2) conventional low friction material includes nylon, Kevlar (aromatic polyamide) and ceramic as evidenced by Bartkowiak (col. 4 lines 30-40).

Japan 403

13) Claims 1, 3, 4, 6, 57-61 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 403 in view of Shibata (US 4152186), Landers et al (US 6450223) and Japan 610 (JP 4-126610).

Japan 403 discloses a pneumatic tire having a tread 2, sidewalls 1, bead portions and a low friction member 8 on the side of the tire as shown in figure 1. During sudden

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turning, the low friction members contact the road to force the tire to slip.

As to claim 1, it would have been obvious to one of ordinary skill in the art to form Japan 403's tire such that the tire has shoulders wherein each shoulder is between the radially outwardly facing tread surface and one of the sidewalls and to provide the shoulder with the low friction material as claimed since (1) Shibata suggests providing a tire tread with joint rubbers 7 (figure 2) such that the position Jp between the joint rubber 7 of the tread portion and the shoulder point Sp is a distance A equal to 20-40% of the height H between the shoulder point Sp and the bead heel and so that the adhesive property between the tread and the sidewall rubber is excellent and will not separate and (2) Japan 403 teaches **providing a tire with low friction members arranged below the tread surface at each side of the tire** as shown in figure 1 so that upon sudden turning of a vehicle, the low friction member contacts the road surface and forces the tire to slip. It is acknowledged that Japan 403 teaches using the low friction material to prevent excessive deformation of the tire so that the tire does not separate from the rim and that applicant teaches that the low friction material is used for preventing rollover. However, Japan 403 and applicant teach locating the low friction material at the same location. In particular, Japan 403 and applicant teach locating low friction material at a location on the side of the tire, which contacts the ground upon severe turning.

Furthermore, it would have been obvious to provide the Japan 403's tread with "ribs and grooves" (blocks and grooves) as claimed since it is well known / conventional in the tire art to provide a tread with blocks and grooves in order to improve traction and

wet road surfaces as evidenced by Landers et al and Japan 610.

As to claim 3, Japan 403 suggests providing low friction material on both sides of the tire.

As to claims 4 and 6, it would have been obvious to mold the low friction material into the shoulder (claim 4) or apply the low friction material on the shoulder as a coating (claim 6) since Japan 403 teaches affixing a low friction member to the side of the tire or integrally forming the low friction member with the material of the tire.

As to claim 57, Japan 403 teaches providing the low friction material on the surfaces on both sides of the tire between the tread 2 and the bead 3.

As to claim 58, it would have been obvious to provide at least a portion of the side surface of the blocks ("ribs") with the low friction material since Landers et al and Japan 610 suggests extending the shoulder blocks and lateral grooves beyond the edge of the footprint / earthing surface) so that water can be directed toward the shoulder and out of the contact patch of the footprint.

As to claim 59, Landers et al and Japan 610 teach circumferentially spaced blocks.

As to claim 60, Japan 403 suggests providing low friction material on both sides of the tire.

As to claims 61 and 63, it would have been obvious to mold the low friction material into the shoulder (claim 61) or apply the low friction material on the shoulder as a coating (claim 63) since Japan 403 teaches affixing a low friction member to the side of the tire or integrally forming the low friction member with the material of the tire.

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14) Claims 5, 8 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 403 in view of Shibata, Landers et al and Japan 610 as applied above and further in view of Japan 177.

As to claims 5 and 8, it would have been obvious to use Teflon for Japan 403's low friction material since conventional low friction material includes Teflon (PTFE) as evidenced by Japan 177. As to claims 5 and 62, Japan 177 suggests providing low friction material between an outer surface of a tread and a sidewall by using Teflon particles in rubber (figure 12).

15) Claims 5, 7 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 403 in view of Shibata, Landers et al and Japan 610 as applied above and further in view of Japan 413 (JP 63-218413).

It would have been obvious to use the claimed material for Japan 403's low friction members since conventional low friction material includes ultrahigh molecular weight polyethylene incorporated in rubber as evidenced by Japan 413.

16) Claims 5, 9 and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 403 in view of Shibata, Landers et al and Japan 610 as applied above and further in view of Costa Pereira et al (US 6116313).

It would have been obvious to use the claimed material for Japan 403's low friction members since conventional low friction material includes rubber based on dimethyl siloxane (silicone material) / fatty acid amide in rubber blend (low friction material incorporated in rubber) as evidenced by Costa Pereira et al (col. 2 lines 53-64)

17) Claims 7 and 10-12 are rejected under 35 U.S.C. 103(a) as being

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unpatentable over Japan 403 in view of Shibata, Landers et al and Japan 610 as applied above and further in view of Muramatsu et al (US 5540489) and/or Bartkowiak (US 5069331).

It would have been obvious to use the claimed material for Japan 403's low friction members since (1) conventional low friction material includes nylon, ultrahigh molecular weight polyethylene and ceramic as evidenced by Muramatsu (US 5540489) and/or (2) conventional low friction material includes nylon, Kevlar (aromatic polyamide) and ceramic as evidenced by Bartkowiak (col. 4 lines 30-40).

Remarks

18) Applicant's arguments with respect to claims 1, 3-12, 57-63 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 11-14-05 have been fully considered but they are not persuasive. The 132 declaration by Bozarth filed 11-14-05 has been considered but is not persuasive of non-obviousness in view of the new ground of rejection using Japan 403, Shibata, Landers et al and Japan 610. Also, the 132 declaration filed 11-14-06 does not address Japan 177.

With respect to Japan 177, applicant argues that Japan 177's tire is fitted inside the track and that the outside of the track, and not the tires, engage the ground. This argument is not commensurate in scope with the claims and is therefore not persuasive since the tire of claim 1 can be used either as a tire inside a track or as a tire that engages the ground. In other words, claim 1 is not limited to mounting the tire on a vehicle such that the tire directly engages the ground.

Applicant comments that the term shoulder has a well understood meaning in the tire industry. In particular, applicant comments that shoulders are portions of the tire at the opposite sides of the tread portion that form the generally side facing surfaces located between the radially outwardly facing surface of the tread portion and the sidewalls. The term "shoulder" is not limited to this definition. For example, see shoulder S in US Patent 5,207,847 to Tokieda et al. Another example, US Patent 6,450,223 describes "'Shoulder' refers to the upper portion of sidewall just below the tread edge." (col. 2 lines 42-43). More importantly, the term "shoulder" is not limited to a region radially above the illustrated location of low friction member 8 in Japan 403. See Shibata et al, which teaches that the radial distance A between the shoulder point Sp and the joint point Jp between the tread and the sidewall as being 20-40% of the height H.

Applicant argues that Japan 177 and the present invention are directed to different problems. In response, the examiner notes that "for preventing vehicle rollover or oversteer" was deleted from claim 1. Furthermore, applicant's arguments relating to reducing the chance that a vehicle will tip over is not commensurate in scope with the claims and is therefore not persuasive since the claims fail to require mounting the tire to a vehicle, which can tip over during a hard turn.

With respect to Japan 403, applicant comments that when a vehicle having Applicant's tires makes a hard turn, the low friction material will come into contact with the road. With respect to a hard turn, the specification describes turning the steering wheel approximately 270 degrees. See specification top of page 10. With respect to

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hard turn, Japan 403 describes the low friction member 8 contacting the road when an "unduly sudden turn" is made. See translation of Japan 403 provided by applicant. Since applicant and Japan 403 both teach locating the low friction material on the tire such that it contacts the road during a "severe" turn, the region for the low friction member 8 disclosed by Japan 403 at least overlaps the region for applicant's low friction material.

The remaining references are cited of interest.

- 19) No claim is allowed.
- 20) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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21) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
February 6, 2006


STEVEN D. MAKI
PRIMARY EXAMINER 2-6-06